

AMENDMENTS TO THE CLAIMS

1-9. (Cancelled)

10. (Currently Amended) An apparatus for receiving a quasi-complementary turbo code (QCTC) and decoding the QCTC, comprising:

a combiner for sequence combining the received symbols;

a channel de-interleaver for separating the combined symbols into an information symbol stream and parity symbol streams, demultiplexing the ~~matched~~ parity symbol streams into at least one parity symbol stream ~~streams~~ according to a given code rate, and independently de-interleaving and outputting the information symbol stream and the demultiplexed parity symbol streams; and

a turbo code decoder for multiplexing the independently de-interleaved parity symbol streams and the de-interleaved information symbol stream, decoding the multiplexed streams according to a predetermined decode rate, and outputting the information symbol stream.

11. (Previously Presented) The apparatus as claimed in claim 10, wherein the channel deinterleaver comprises:

a separator for separating an output of the combiner into an information symbol stream and at least one parity symbol stream;

at least one demultiplexer for demultiplexing the parity symbol streams output from the separator into parity symbol stream pairs; and

at least one deinterleaver for independently deinterleaving outputs of the demultiplexers and the information symbol stream.

12. (Cancelled)

13. (Currently Amended) The apparatus as claimed in claim 10, wherein the combiner comprises:

a circular buffer memory for storing the received symbols; and

a sequence/symbol combiner for selecting and outputting a predetermined number of symbols stored in the circular buffer memory, according to a code rate from a the starting position.

14. (Original) The apparatus as claimed in claim 13, wherein the starting position of the circular buffer memory is the symbol next to the last symbol of the finally transmitted symbols whenever each symbol stream is received.

15. (Previously Presented) The apparatus as claimed in claim 13, wherein the sequence/symbol combiner combines the received symbols with the previous transmitted symbol and outputs a combined symbol to the channel de-interleaver if there is a retransmission symbol of the received symbol.

16. (Currently Amended) The apparatus as claimed in claim 15, wherein the ~~combination~~ is combiner performs a soft combining ~~combination~~.

17. (Currently Amended) The apparatus as claimed in claim 15, wherein the ~~combination~~ is combiner performs a hard combining ~~combination~~.

18. (Currently Amended) A method for receiving quasi-complementary turbo code (QCTC) and decoding the QCTC, comprising the steps of:

(a) sequence combining ~~the~~ received symbols;

(b) separating the combined symbols into an information symbol stream and parity symbol streams, demultiplexing the parity symbol streams into at least one parity symbol stream according to a given code rate, and independently de-interleaving and outputting the information symbol stream and the demultiplexed parity symbol streams; and

(c) multiplexing the independently de-interleaved parity symbol streams and the de-interleaved information symbol stream, decoding the multiplexed streams according to a predetermined decode rate, and outputting the information symbol stream.

19. (Currently Amended) The method as claimed in claim 18, wherein the step (b) comprises the steps of:

(a) separating and outputting the information symbol stream and the parity symbol streams from the combined symbols;

(b) demultiplexing the parity symbol streams ~~and separating the respective parity symbol streams~~; and

(c) independently de-interleaving the demultiplexed parity symbol streams and the ~~respective~~ information symbol stream.

20. (Cancelled)

21. (Original) The method as claimed in claim 18, wherein the step (a) comprises the steps of:

circularly storing the received symbols; and

selecting and outputting a predetermined number of symbols of symbols circularly stored, according to a code rate from the starting position.

22. (Previously Presented) The method as claimed in claim 21, wherein in the step (a) the starting position of the circularly stored symbols is the symbol next to the last symbol of the finally transmitted symbols whenever each symbol stream is received.

23. (Previously Presented) The method as claimed in claim 21, wherein step (b) comprises combining the previous transmitted symbol with outputs to the channel de-interleaver if there is a retransmission symbol of the received symbol.

24. (Original) The method as claimed in claim 23, wherein the combination is a soft combination.

25. (Original) The method as claimed in claim 23, wherein the combination is a hard combination.

26. (Original) The method as claimed in claim 18, wherein in the step (b) the information symbols and a plurality of parity symbol streams are de-interleaved respectively, independently by PBRO (Partial Bit Reversal Order) De-interleaving method.

27-33. (Cancelled)

34. (Previously Presented) The apparatus as claimed in claim 10, further comprising a depuncturer for depuncturing the received symbols according to a code rate.